



November 8, 2005  
Project No. 206477001

Ms. Nadine Kirk  
Kilroy Realty, L.P.  
12200 West Olympic Boulevard, Suite 200  
Los Angeles, California 90064

Subject: Proposal for Phase II Environmental Site Assessment  
17150 Von Karman Avenue  
Irvine, California

Dear Ms. Kirk:

At your request, Ninyo & Moore is pleased to provide this cost estimate to perform a Phase II Environmental Site Assessment (ESA) at the subject site. A Phase I ESA of the subject site has been performed by Ninyo & Moore. The Phase I ESA concluded that chemicals used throughout the site since the construction of the site building in 1974 may have impacted soil and/or groundwater beneath the site. Some specific possible source areas include the following:

Based on the results of the Phase I ESA, Ninyo & Moore recommended that Phase II subsurface soil and groundwater investigations be conducted in the vicinity of an idle tetrachloroethene (PCE) aboveground storage tank (AST), former degreasers, plating lines, floor and trench drains, waste water treatment system (WWTS), and cooling towers. In addition, it was recommended that four existing groundwater monitoring wells be abandoned.

## **SCOPE OF WORK**

The scope of work for this Phase II ESA includes the following tasks.

### **Field Work Coordination and Health & Safety Plan**

Before commencement of field work, proposed boring locations will be marked, Dig Alert will be notified for underground utility clearance at the site, and a site specific health and safety plan will be prepared to protect worker safety during the field work.

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### **Soil Sampling**

A total of (21) soil probes will be advanced to depths of approximately 10 feet below the ground surface (bgs). The proposed locations of the soil borings, as shown in Figure 1, are based on the findings of the Phase I ESA. Groundwater is anticipated at approximately 10 to 15 feet bgs. The probes will be advanced and sampled using hydraulic direct-push methods. Soil samples will be collected at approximately 3, 5, and 10 feet (within the vadose zone). Soil samples will be collected in acetate sleeves. The sleeves will be cut into 6-inch long sections, capped with PVC end caps, labeled, placed in zip-lock plastic bags, and placed in an ice chest cooled to approximately 4 degrees Celsius. The samples will be delivered to a state-certified analytical laboratory for chemical analysis.

Boring logs will be completed for each probe and will include a description of the soil type, depth to groundwater level and any hydrocarbon odors or fuel stains. Probes will be backfilled with bentonite prior to leaving the site. Waste materials such as drill cuttings will not be generated by the proposed sampling methods.

### **Groundwater Sampling**

Eight (8) of the 21 soil probes will be further advanced to approximately 15 feet bgs or to approximately 2 to 3 feet below first groundwater. One groundwater sample will be collected from each probe using the hydraulic direct-push method. Three (3) additional probes will be advanced at the locations shown in Figure 1 for the purposes of collecting groundwater samples. Groundwater samples will be collected in plastic or glass bottles provided by the analytical laboratory. The sample containers will be labeled, placed in an ice chest, cooled to approximately 4 degrees Celsius, and delivered to a state-certified analytical laboratory for chemical analysis.

### **Analytical Program**

Two soil samples from each soil probe (42 samples) will be submitted for analysis. Selected soil samples will be analyzed for volatile organic compounds (VOCs) using EPA Methods 8260B, metals by EPA Method 6000/7000 series, cyanide by EPA Method 9014, and for hexavalent chromium by EPA Method 7196A. Up to 30 soil samples will be analyzed for metals and cya-

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nide, up to 20 soil samples will be analyzed for VOCs, and 2 soil samples will be analyzed for hexavalent chromium.

Groundwater samples will be collected from 11 probes. The groundwater samples will be analyzed for VOCs by EPA Method 8260B

### **Groundwater Monitoring Well Abandonment**

The four existing groundwater monitoring wells at the site will be abandoned under permit from the Orange County Health Care Agency (OCHCA). The wells are assumed to be 2-inch diameter PVC to a total depth of 20 feet bgs. In accordance with OCHCA requirements, the wells will be overdrilled and the borings will be backfilled with cement grout. The borings will be resurfaced with concrete. Cuttings from the abandonment borings will be placed in 55-gallon drums and temporarily stored on-site. The drums of soil will subsequently be profiled and disposed of as non-hazardous waste.

### **Data Evaluation and Reporting**

Following completion of the field sampling and receipt of final laboratory results, we will prepare a summary report of the findings. The summary report will include a description of sampling and analytical methods, boring logs, copies of laboratory reports, and conclusions and recommendations.

### **FEE**

The fee for the work described above will be \$33,235 (thirty three thousand two hundred and thirty five dollars). Work will be performed on a lump sum basis. The fee presented here is for a normal 7-day turnaround time for laboratory analysis.

The following is a breakdown of the proposed fees.

Project Coordination/Health & Safety Plan Preparation.....	\$ 800
Soil and Groundwater Sampling.....	\$12,000
Laboratory Analysis .....	\$ 7,650
Groundwater Monitoring Well Abandonment .....	\$ 5,450

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Permits .....	\$ 935
Waste Soil Disposal .....	\$ 2,100
Report Preparation .....	\$ 4,300
<b>TOTAL FEE</b>	<b>\$33,235</b>

## SCHEDULE

The soil and groundwater sampling and well abandonment can be completed with 2 weeks from the date of authorization of this scope of work. The laboratory analysis will be completed within 7 to 10 days of completion of the field work. A final report can be completed within 2 weeks from the date of receipt of the final analytical reports from the laboratory.

Ninyo & Moore appreciates this opportunity to be of service. If you have any questions or comments regarding this cost estimate, please call at your convenience.

Sincerely,  
**NINYO & MOORE**

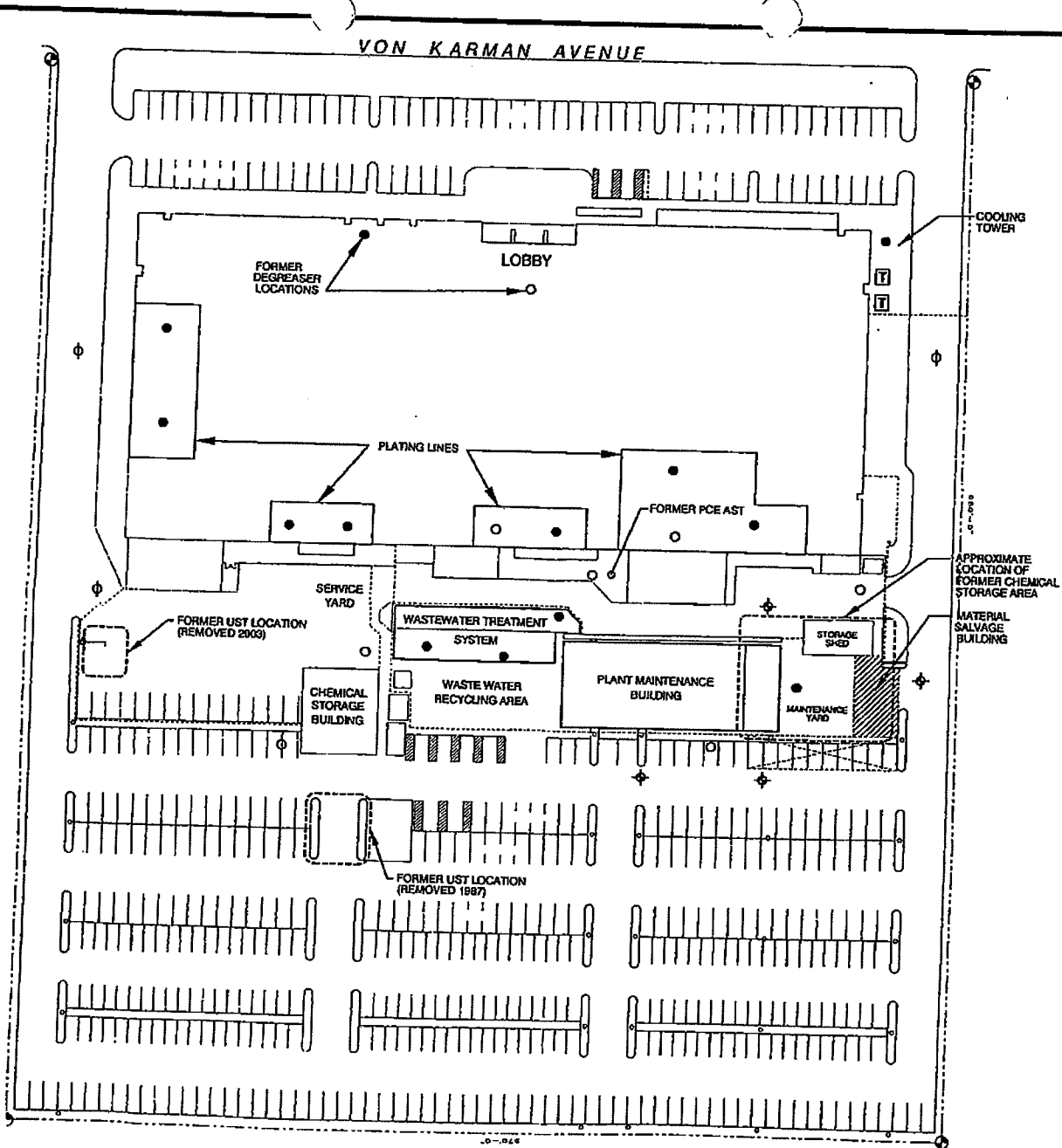


Craig A. Metheny, R.E.A.  
Senior Environmental Geologist

Attachment: Figure 1 – Proposed Boring Locations

Distribution: (1) Addressee  
(1) Ms. Patty Farris, McRoberts, Roberts & Rainer, LLP

**Ninyo & Moore**



#### LEGEND

- PROPOSED SOIL BORING LOCATION
- PROPOSED SOIL/ GROUNDWATER BORING LOCATION
- ⊕ PROPOSED GROUNDWATER SAMPLE LOCATION
- ⊕ APPROXIMATE LOCATION OF GROUNDWATER MONITORING WELL
- PCE PERCHLOROETHYLENE
- UST UNDERGROUND STORAGE TANK
- ⊞ PAD-MOUNTED TRANSFORMER

0 100 200  
APPROXIMATE SCALE IN FEET

REFERENCE: SITE PLAN PROVIDED BY PACKARD HUGHES INTERCONNECT, 4/2/99.

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

#### PROPOSED BORING LOCATIONS

17150 VON KARMAN AVENUE  
IRVINE, CALIFORNIA

PROJECT NO.

206477001

DATE

11/2005

FIGURE

1

**Ningo & Moore**



June 12, 2006  
Project No. 206477001

Ms. Nadine Kirk  
Kilroy Realty, L.P.  
12200 West Olympic Boulevard, Suite 200  
Los Angeles, California 90064

Subject: Cost Estimate for Supplemental Phase II Environmental Site Assessment  
17150 Von Karman Avenue  
Irvine, California

Dear Ms. Kirk:

Ninyo & Moore is pleased to provide this cost estimate to perform supplemental Phase II Environmental Site Assessment (ESA) activities at the subject site. Ninyo & Moore has been in the process of performing a Phase II ESA of the subject site. Based on field conditions, and preliminary results of sampling and analyses performed to date, additional costs have been incurred and additional investigation and evaluation is recommended. This cost estimate outlines these additional services

#### **Soil and Groundwater Sampling – Interior of Building**

Ninyo & Moore had proposed to advance and sample 11 soil probes within the site building. 10 feet below the ground surface (bgs). Three of the 11 probes were also proposed to sample groundwater. During field sampling activities, it was found that the building is underlain by a double floor. That is, approximately 2 feet beneath the visible concrete floor in the building is another concrete floor. Between the two floors is soil and gravel. The presence of the second floor made the advancement of probes through the floor much more time consuming. The time to collect the soil and groundwater samples beneath the interior of the building was originally estimated to take one 8-hour day. Due to the double floor, the time to complete this take has doubled to two 8-hour days.

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### **Additional Soil Sampling**

Based on preliminary results of soil sampling and analyses performed to date, low levels of chlorinated volatile organic compounds (VOCs), including trichloroethene (TCE) and tetrachloroethene (PCE), as well as aromatic VOCs, including benzene and toluene, have been detected in soil samples collected from the exterior of the site. To further define the lateral extent of these contaminants, Ninyo & Moore recommends the installation and sampling of 4 additional soil probes in the general vicinity of the former chemical storage building and current chemical storage building at the site. The soil probes will be samples using similar methods as previously proposed. Two soil samples from each soil probe (8 samples) will be selected for analysis. The selected soil samples will be analyzed for VOCs using EPA methods 8260B.

### **Soil Vapor Survey**

Based on the preliminary results for the samples collected so far, we have detected some low concentrations of various chlorinated VOCs in soil in the general areas of the former chemical storage area (northeast of the current maintenance building) and the current chemical storage building. The concentrations are low and are well below the USEPA preliminary remediation goals for these compounds for a residential use scenario. However, we are concerned about possible vapor transport of these compounds to the indoor air environment for proposed residents. The migration of soil vapors into the indoor air environmental has become a significant issue recently and one that the regulators are taking a close look at.

In order to characterize the soil vapor concentration of the VOCs for use in a health risk exposure model, we propose to collect soil vapor samples from approximately 6 locations. The vapor samples will be collected from approximately 4 feet deep and will be analyzed for VOCs by EPA method 8260B (modified for vapor).

### **Human Health Risk Assessment**

The indoor air inhalation risk evaluation estimates the potential chronic health hazard from contamination encountered at the site in soil and soil vapor. The objective of the study is to evaluate

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if further site characterization and risk assessment, site remediation, or administrative controls are appropriate. This evaluation consists of five major steps described below.

- **Exposure Pathways and Media of Exposure** – This study will be limited to the indoor air inhalation pathway.
- **Exposure Concentrations and Chemicals** – This step describes the chemical groups identified through the site characterization program, identifies the contaminants of potential concern (COPCs), and evaluates the physical and chemical characteristics of the individual COPCs used in the exposure assessment.
- **Toxicity Assessment** – This step compiles the relevant and significant human toxicity of the COPCs.
- **Risk Characterization Summary** – This step integrates the results of the exposure assessment and the toxicity assessment to quantify the risk and hazard from the COPCs. The risk and hazard is summed for all chemical groups or compounds for the indoor air inhalation pathway.
- **Uncertainty Analysis** – This step summarizes the basic assumptions and uncertainties of the study.

#### **Additional Data Evaluation and Reporting**

The additional soil borings, soil vapor survey, and human health risk assessment will require additional data evaluation and reporting than was originally proposed.

#### **ADDITIONAL FEE**

The additional fee for the work described above will be \$15,600 (fifteen thousand six hundred dollars). Work will be performed on a lump sum basis. The fee presented here is for a normal 7-day turnaround time for laboratory analysis.

The following is a breakdown of the proposed fees.

Soil and Groundwater Sampling – Interior of Building .....	\$ 3,400
Additional Soil Sampling .....	\$ 2,700
Soil Vapor Survey .....	\$ 3,300
Human Health Risk Assessment .....	\$ 4,500
<u>Additional Data Evaluation and Reporting .....</u>	<u>\$ 1,900</u>
<b>TOTAL FEE</b>	<b>\$15,800</b>



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If the additional scope of work and fees are acceptable, please provide written authorization to proceed and issue contract documents, as needed.

Ninyo & Moore appreciates this opportunity to be of service. If you have any questions or comments regarding this cost estimate, please call at your convenience.

Sincerely,  
**NINYO & MOORE**



Craig A. Metheny, R.E.A.  
Senior Environmental Geologist

Distribution: (1) Addressee  
(1) Ms. Karen Kight, McRoberts, Roberts & Rainer, LLP